

## **Influenza vaccination in Alberta, 1978: physician compliance with recommendations**

*To the editor:* Since 1976 the Department of Social Services and Community Health in Alberta has sponsored an annual influenza vaccination program. In 1978 vaccination was recommended for persons at high risk in whom death occurs during influenza outbreaks. These high-risk categories are consistent with groups for whom influenza vaccination has been recommended by the National Advisory Committee on Immunization.<sup>1</sup> Persons at high risk include those who have such conditions as chronic heart disease, chronic bronchopulmonary disease, chronic renal disease or chronic metabolic disorders such as diabetes mellitus, and those aged 65 years or more.

In 1978 a trivalent influenza vaccine preparation was used that contained the A/USSR/77-like (H<sub>1</sub>N<sub>1</sub>) strain, the A/Texas/77-like (H<sub>3</sub>N<sub>2</sub>) strain and the B/Hong Kong/72-like strain. Two formulations were available: the "youth formulation", for use in persons under 26 years of age and requiring two doses about 1 month apart, and the "adult formulation", which required only one dose and contained a smaller concentration of the A/USSR/77-like strain.

The vaccine, located with local health authorities, was available

free of charge to physicians wishing to vaccinate persons in the high-risk categories. Advance information was sent to all physicians licensed in Alberta. The vaccine could also be administered by community health nurses. In 1978 a brief recording form was provided so that information on medical indications for vaccination could be obtained. An assessment of compliance with the recommendations was then carried out.

According to the estimates provided by local health authorities physician compliance in completing these forms was 53%. Of approximately 24 000 vaccinated persons information was obtained for 12 726. These data were analysed to determine the extent to which the recommendations were reported to have been followed.

Approximately two thirds (66.1%) of the individuals were 65 years of age or older, which automatically put them in the high-risk group. Of the remaining 33.9% the largest 5-year age group vaccinated were those 0 to 4 years old (1584 persons or 6.6%). In most of the elderly persons no other information concerning medical indication was provided, although chronic heart disease was indicated in 7.3% and chronic bronchopulmonary disease in 5%. For those aged 65 years or less chronic bronchopulmonary disease was the most frequently cited "valid" reason for vaccination (in 13%). Chronic metabolic disorders and chronic heart disease each accounted for approximately 5% of the conditions cited. Only 0.6% were reported to have chronic renal disease.

It can be estimated from these data that approximately 74% of the individuals were vaccinated for "valid" reasons. Clearly, however, most of the persons under 65 years of age (76.5%) were vaccinated for reasons not consistent with the recommendations. The other most common reason given in this group was "occupation" (9.4%), and the remainder had miscellaneous medical conditions, only some of which may have been relevant.

In Alberta in 1978 approximately 146 900 people were 65 years of age or older. Only 15 871 (10.8%) of this group were vaccinated through the provincially sponsored program. No reliable data are currently available on the number of persons vaccinated outside this program, although it is realistic to suggest that most of the elderly persons were not vaccinated in 1978. Clearly most of the persons under 65 years of age vaccinated did not have one of the specified conditions, although most did have some other underlying chronic condition.

Influenza vaccination is a potentially valuable preventive measure for persons at high risk of death during influenza outbreaks. However, the experience in Alberta during 1978-79 indicates that this measure may not be well accepted by many practising physicians. Our results indicate that only a small proportion of the elderly were vaccinated in 1978, while many of the younger population may have been inappropriately vaccinated. The Alberta program recognizes that practising physicians should be in the best position to identify persons at high risk. It is hoped that greater

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familiarity with the program and with the current recommendations for vaccination will lead to better compliance and more appropriate use of influenza vaccine in the long term.

We thank the participating physicians and the local health authorities in Alberta for providing information for this analysis.

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## Reference

1. National Advisory Committee on Immunization. Statement on influenza vaccination for the 1978-79 season. *Can Dis Wkly Rep* 4: 133, 1978

## Injuries in rugby

*To the editor:* Rugby is becoming more and more popular. The rugby unions of South Africa and the United Kingdom have been recording and analysing the injuries sustained by rugby players in their countries for a long time, thereby improving the game.

The medical committee of the Ontario Rugby Union has started to tabulate any injuries sustained by players in their clubs. Table I lists the injuries sustained by players in six clubs during 1979. The injured players were seen and then followed up by medical personnel.

Table I—Injuries sustained by rugby players in the Ontario Rugby Union in 1979

Type and site of injury	No. of injuries
Fracture	
Clavicle	2
Wrist	3
Mandible	1
Nasal bones	4
Ankle	3
Finger	1
Rib	3
Ligamentous	
Knee	4
Ankle	1
Neck	1
Separated shoulder	3
Head	1
Lacerations	6
Eye	1
Back	2
Teeth	1
Total	37

Regrettably, one player lost the sight of one eye. All the other injured players had uneventful recoveries. All six clubs indicated that good training and fitness helped to keep the number of serious injuries to a minimum.

The medical committee of the Ontario Rugby Union would like to hear from anyone with further information on injuries sustained in rugby.

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## The periodic health examination

*To the editor:* The Journal staff is to be congratulated for publishing the task force report on the periodic health examination (*Can Med Assoc J* 121: 1193, 1979). This impressive report contains much information that deserves thoughtful consideration, and presents a rational approach to the periodic health examination that will help to reduce the unnecessary requests for annual examinations or check-ups that have been encouraged by some agencies. This concept should be encouraged, but the recommendations should not be accepted uncritically. Used as a guide, this report will help us make the best use of our resources and will provide a sound basis upon which the provincial medicare systems can support the cost of preventive care.

Among the many excellent recommendations there is one that I find disturbing. In section 15 (page 1208) it is recommended that mumps vaccine be given, presumably routinely. This recommendation is supported by one reference,<sup>1</sup> although there may have been other references in the original document. However, that reference does not show any strong recommendations for the use of the vaccine: the author stated that mumps is "not a serious disease" and that "compared with measles and rubella the need for immunization would appear to be less pressing."

While I can appreciate the ap-

## Aspirin\*

**Acetylsalicylic Acid.** Analgesic, anti-inflammatory, antipyretic and antiplatelet.

**Indications:** The relief of pain, fever and inflammation of a variety of conditions such as influenza, common cold, low back and neck pain, dysmenorrhea, headache, toothache, sprains and strains, myositis, neuralgia, synovitis, arthritis, bursitis, burns, injuries, following surgical and dental procedures. Reduction in the adhesive properties of platelets in patients with diseased arteries, artificial blood vessel shunts and heart valves, and in patients with spontaneous platelet aggregation syndromes.

**Actions:** Acetylsalicylic acid (ASA) interferes with the production of prostaglandins in various organs and tissues through the acetylation of the enzyme cyclooxygenase. Prostaglandins are themselves powerful irritants and produce headaches and pain on injection in man. Prostaglandins also appear to sensitize pain receptors to other noxious substances such as histamine and bradykinin. Acetylsalicylic acid acts as an analgesic and anti-inflammatory agent by reducing tissue levels of prostaglandins. ASA's antipyretic activity is due to its ability to interfere with the production of prostaglandin E<sub>2</sub> in the brain. Prostaglandin E<sub>2</sub> is one of the most powerful pyretic agents known. ASA's inhibition of platelet aggregation is due to its ability to interfere with the production of thromboxane within the platelet. Thromboxane is responsible for the platelets' aggregating properties.

**Contraindications:** Salicylate sensitivity, active peptic ulcer.

**Precautions:** Administer salicylates cautiously to patients with asthma and other allergic conditions, with a history of gastrointestinal ulcerations, with bleeding tendencies, with significant anemia or with hypoprothrombinemia. Patients taking ASA daily are at an increased risk of developing gastrointestinal bleeding following the ingestion of alcohol. Caution is necessary when salicylates and anticoagulants are prescribed concurrently, as salicylates can depress the concentration of prothrombin in the plasma. Diabetics receiving concurrent salicylate-hypoglycemic therapy should be monitored closely, and reduction of the sulfonylurea hypoglycemic drug dosage or insulin requirements may be necessary. High doses (3 g daily) of ASA during pregnancy may lengthen the gestation and parturition time. Salicylates can produce changes in thyroid function tests. Sodium excretion produced by spironolactone may be decreased by salicylate administration. Salicylates in large doses are uricosuric agents, smaller amounts may depress uric acid clearance and thus decrease the uricosuric effects of other drugs. Salicylates also retard the renal elimination of methotrexate.

**Adverse Effects:** Gastrointestinal: nausea, vomiting, diarrhea, gastrointestinal bleeding and/or ulceration, dyspepsia, heartburn. Ear: tinnitus, vertigo, hearing loss. Hematological: leukopenia, thrombocytopenia, purpura, anemia. Dermatological and hypersensitivity: urticaria, angioedema, pruritus, skin eruptions, asthma, anaphylaxis. Miscellaneous: mental confusion, drowsiness, sweating, thirst.

**Dosage:** Analgesic: Adults: 1-3 tablets (325 mg to 975 mg) orally every 3 to 4 hours. Children: 10 to 20 mg/kg every 6 hours, not to exceed a total daily dose of 3.6 g. Antipyretic: Adults: 1-3 tablets (325 mg to 975 mg) orally every 3 to 4 hours. Children: 10 to 20 mg/kg every 6 hours, not to exceed a total daily dose of 3.6 g. Anti-inflammatory: Adults: 3 tablets (975 mg) 4 to 6 times a day, up to 30 tablets (10 g) daily, for optimal anti-inflammatory effect. A blood level between 15 and 30 mg per 100 ml is in the therapeutic range. Children: 60 to 125 mg/kg daily in 4 to 6 divided doses. Antiplatelet: Cerebral and retinal ischemic attacks: Men 2 tablets (650 mg) b.i.d. Prophylaxis of venous thromboembolism after total hip replacement: Men 2 tablets (650 mg) b.i.d. started 1 day before surgery and continued for 14 days. Adjunctive therapy (with dipyridamole) to increase platelet survival in patients with prosthetic heart valves: 3 tablets (975 mg) daily.

**How Supplied:** Each white tablet with the Bayer Cross\* contains (5 grains) 324 mg acetylsalicylic acid. In packages of 12, 24, 48, 100, 200 and 300. Also supplied as Flavoured Children's Size ASPIRIN\* (ASA tablets). Each peach coloured tablet, with a pleasant orange taste, contains (1½ grains) 81 mg acetylsalicylic acid. In bottles of 24.

**Prescribing Information:** Full prescribing information available on request.

### References:

1. Fields, William S., et al: Controlled Trial of Aspirin in Cerebral Ischemia. *Stroke*, 8: 301-315, 1977.
2. Canadian Co-operative Stroke Study Group: Randomized Trial of Therapy with Platelet Antiaggregants for Threatened Stroke. *Canadian Medical Association Journal*, 122: 293-296, Feb. 9 and March 8, 535-539, 1980.
3. Canadian Co-operative Study Group: A Randomized Trial of Aspirin and Sulfapyrazone in Threatened Stroke. *New England Journal of Medicine*, 299: 53-59, 1978.
4. Aspirin for Transient Ischemic Attacks. *FDA Bulletin*, 2, Feb. 1980.
5. Craven, Lawrence L.: Prevention of Coronary and Cerebral Thrombosis. *Mississippi Valley Med Journal*, 78: 213-215, 1956.

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